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Lake City, Columbia Co., July 11–19, 1895, George V. Nash—Plants of Florida, no. 2244; Eustis, Lake Co., Hammock Land, June, 1894, George V. Nash—Plants of Central Peninsular Florida, no. 988.

Alabama: Auburn, Lee Co., July 8, 1896, F. S. Earle and L. M. Underwood.

Mississippi: Ocean Springs, June, 1896, L. M. Underwood.

This plant at once approves itself to the eye as different from *S. Canadensis*, notwithstanding a seeming absence of such crucial characters as subsist between other eastern species. Its distinctive appearance comes mainly from the leaves, the segments showing a marginal pattern which greatly accentuates the style of cutting characteristic of the more northern plant.

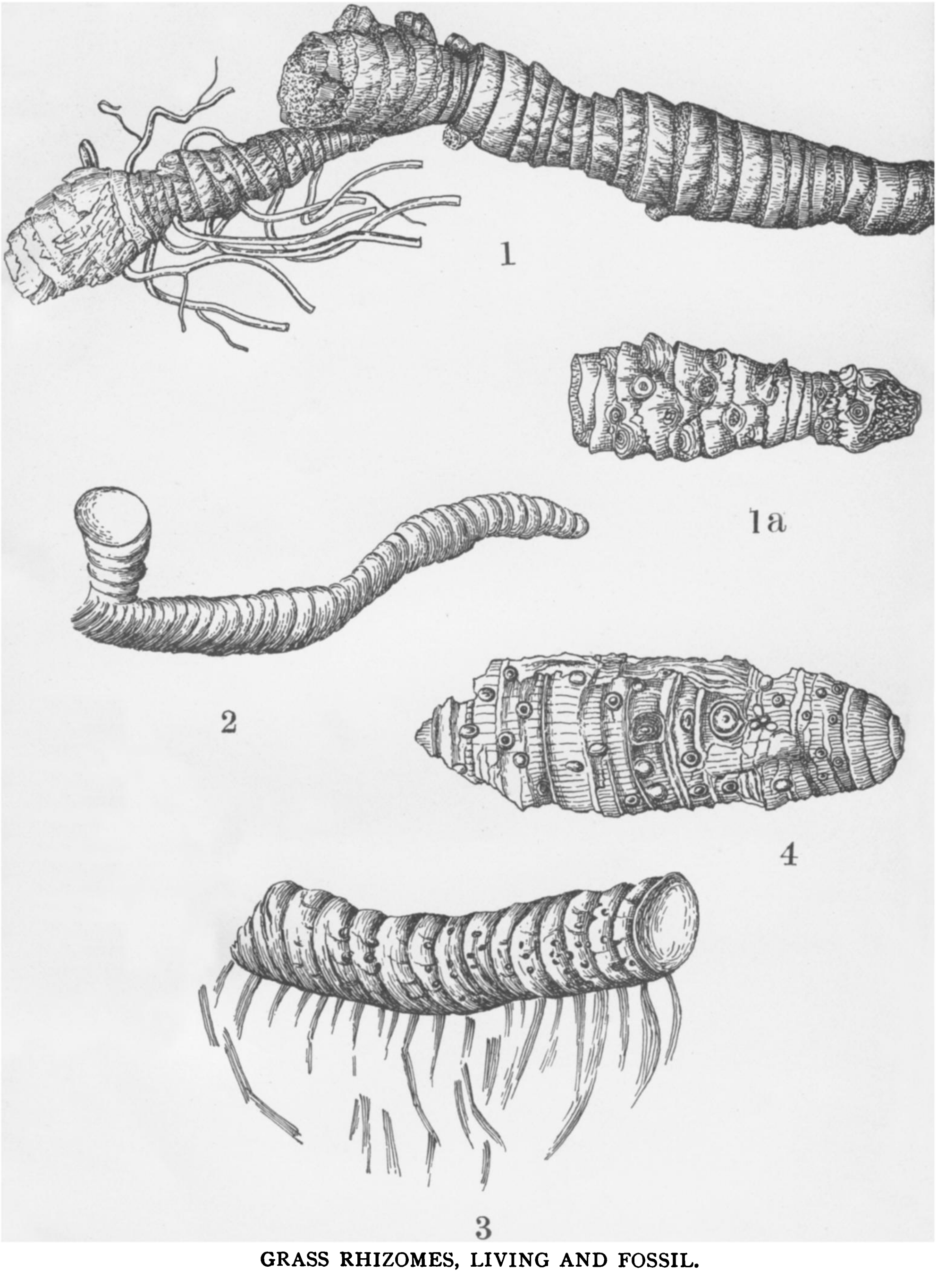
In giving to this plant the formal designation of a species, I do not wish to be understood as holding that it is totally disconnected organically from *Canadensis*. Whether it is or is not I do not know, nor is the question one which need affect the right of this positively individualized plant to bear its distinctive name. Undoubtedly, its *species quality* is of lower grade than that of *S. Smallii* or any other one of our explicit eastern species; nevertheless the quality in marked degree is there. It is doubtless a geographical derivative of *Canadensis*, and is so nearly related to it that interrelation may be expected where the ranges of the two adjoin. Certain specimens of *Canadensis* from South Carolina and Georgia appear to show an approach towards it, although typical *Canadensis* extends into Florida, as attested by several specimens, and as far south as Southern Texas as shown by Mr. A. A. Heller's "No. 1713, Plants of Southern Texas, San Antonio, May 5, 1895," which closely matches many northern specimens.

Affinities of Caulinites Ad. Brong.

BY ARTHUR HOLLICK.

(PLATE 320.)

In Science 1: 725, 726 (June 28, 1895) may be found an abstract of the proceedings of the Biological Society of Washington for June 1st of that year, in which Dr. Lester F. Ward calls



GRASS RHIZOMES, LIVING AND FOSSIL.

attention to the similarity in appearance between the rhizomes of *Tripsacum dactyloides* L. and the fossil organisms known under the generic name of *Caulinites* Ad. Brong.

Recently Dr. Ward sent to me the rhizomes upon which he based his conclusions, with the suggestion that I make drawings of them and reproductions of some figures of *Caulinites*, for closer comparison, and prepare a brief article on the subject.

Authorities have differed in opinion regarding the probable affinities of this genus. Desmarest, who was the first to figure and name a specimen referable to it (Nouv. Bull. Soc. Phil. Sci. Nat. 2: 272. *pl. 11, f. 4.* 1811.)* supposed the specimen to be a polyp and called it *Amphitoites Parisiensis*, under which name it was reproduced by Cuvier and Alexander Brongniart. (Essai Géog. Minéral Envir. Paris, in Mem. Inst. Imp. France, Cl. Sci. Math. et Phys. 1810. Part 1. 165. *pl. 2, figs. 10 A, 10 B.* 1811.) Desmarest subsequently decided that it belonged in the vegetable kingdom and compared it with *Zostera*. (Ann. Sci. Nat. Paris. 1: 334. 1824.) Adolph Brongniart likewise recognized the botanical characters of similar organisms under the generic name of *Culmites*. (Descr. Géol. Envir. Paris, 359. 1828.)* He also compared *Amphitoites* with *Caulinia* DC. (*Posidonia* Kön.) and renamed the genus *Caulinites*, placing it under the Naiadaceae. (Prod. Hist. Vég. Foss. 115. 1828.) In this view he was followed in part by other authorities and finally the several described species of *Culmites* and *Caulinites* were apportioned among a number of different genera and families. Heer considered similar organisms to belong with the grasses, placing them under the genera *Arundo* L. and *Phragmites* Trin. (Fl. Tert. Helvet. 1: 62, 64. 1855.) while Lesquereux described and figured specimens from Clear Lake, California, under the name *Caulinites Beckeri* (Proc. U. S. Nat. Mus. 10: 36. *pl. 1, f. 3; 2, figs. 2–4.* 1887), placing them with the Naiadaceae. In connection with this description, however, is a footnote, consisting, in part, of a letter from the collector, Mr. G. F. Becker, suggesting that they are probably silicified fragments of "Tule" (*Scirpus lacustris* L.), which grows abundantly on the borders of the lake.

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* These two references I have not been able to verify personally. I am indebted to Mr. David White, of the United States Geological Survey, for assistance in this connection.

In Dr. Ward's paper (*l. c.*) the above description is noted, but "Tule" is referred to *Phragmites Phragmites* (L.) Karst., an error which Dr. Ward writes me arose from the fact that he believed Becker's specimens to belong to that genus and not to *Scirpus*.

In this connection a note of interest may be found in the American Naturalist, 31 : 227. 1897, in relation to stolons of *Phragmites* ,from islands in the Platte River, Nebraska, where it is stated that the long trailing stems, which are at first under ground, have become exposed by the erosion of the surrounding sand and now run over the surface as jointed stolons, with fibrous roots at the joints.

A paper relating to the same subject may also be found in a recent number of the BULLETIN, in which is described and figured the culms and rhizomes of a supposed fossil grass.* A comparison between certain of the figures which illustrate that paper and those now given are of interest and significance.

Taking all the facts into consideration there seems to be but little doubt that most of the organisms described under the genus *Caulinites* should be regarded as belonging to the rhizomes of grasses, sedges or rushes, and it is unfortunate that the generic name implies relationship with the Naiadaceae.

Explanation of Plate 320.

Figs. 1, 1 a. Rhizome of *Tripsacum dactyloides* L., from Great Falls of the Potomac, Maryland side, collected by Dr. Lester F. Ward, April 27, 1895.—Fig. 1, upper surface ; fig. 1 a, under surface of same.

Figs. 2, 3. *Caulinites digitatus* Wat. Plant. Foss. Bass. Paris, *pl. 19, figs. 7, 8.*

Fig. 4. *Arundo* (*Donax*) *Goepperti* (Münst.) Heer, Fl. Tert. Helvet. 1 : *pl. 23, fig. 5.*

Proceedings of the Club.

TUESDAY EVENING, OCTOBER 12, 1897.

The first meeting of the Club, after the summer vacation, was held in its new quarters at the College of Pharmacy. The President occupied the chair and 24 persons were present. In the absence of the Secretary, Mr. Willard N. Clute was elected Secretary pro-tem.

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* A new Fossil Grass from Staten Island. Arthur Hollick, Bull. Torrey Bot. Club, 24: 122–124. *pl. 298.* 1897.